

FILE 'REGISTRY' ENTERED AT 11:05:25 ON 23 SEP 2003

L4 1 S TANTALUM (W) PENTAMETHOXIDE
L5 1 S TANTALUM (W) PENTAETHOXIDE

FILE 'USPAT2' ENTERED AT 11:06:25 ON 23 SEP 2003

L6 0 S 865-35-0.RN.
L7 1 S L4
L8 27 S L5
L9 22 S L8 AND CAPACITOR ✓

FILE 'INSPEC, CAPLUS' ENTERED AT 11:11:20 ON 23 SEP 2003

=> s 14 and capacitor

L10 5 L4 AND CAPACITOR

=> d 1-5

L10 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:605662 CAPLUS

DN 133:186514

✓ TI Method and apparatus for preparing integrated circuit thin films by
chemical vapor deposition

IN Pazde, Araujo Carlos A.; McMillan, Larry D.; Solayappan, Narayan; Baco
n,

Jeffrey W.

PA Symetrix Corporation, USA

SO U.S., 24 pp., Cont.-in-part of U.S. Ser. No. 653,079, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 67

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 5110531	A	20000829	US 1997-892485	19970714
	US 5138520	A	19920811	US 1991-690940	19910617
	JP 11131247	A2	19990518	JP 1998-236014	19920221
	JP 3238663	B2	20011217		
	US 5456945	A	19951010	US 1992-993380	19921218
	US 5648114	A	19970715	US 1993-90767	19930712
	US 5519234	A	19960521	US 1993-154927	19931118
	US 5601869	A	19970211	US 1995-478399	19950607
	US 5688565	A	19971118	US 1995-480477	19950607
	US 6080592	A	20000627	US 1995-477331	19950607
	US 5997642	A	19991207	US 1997-971799	19971117
	US 6116184	A	20000912	US 1997-971890	19971117
	WO 9902756	A1	19990121	WO 1998-US14531	19980714
	W: CN, IL, JP, KR, US, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL				
	PT, SE				
	EP 998594	A1	20000510	EP 1998-934515	19980714
	R: DE, FR, GB, IT, NL				
	JP 2001509641	T2	20010724	JP 2000-502245	19980714
	US 6174564	B1	20010116	US 1999-258486	19990226
	US 6511718	B1	20030128	US 1999-446226	19991217

US 6454964 B1 20020924 US 2000-718847 20001122
 PRAI US 1991-660428 B2 19910225
 US 1991-690940 A2 19910617
 US 1991-807439 B2 19911213
 US 1992-965190 B3 19921023
 US 1992-993380 A2 19921218
 US 1993-90767 A2 19930712
 US 1993-154927 A2 19931118
 US 1995-480477 A2 19950607
 US 1996-653079 B2 19960521
 US 1988-290468 A2 19881227
 WO 1989-US5882 W 19891227
 JP 1992-511586 A3 19920221
 US 1992-981133 A2 19921124
 US 1993-134493 B1 19931019
 US 1994-291366 A3 19940816
 US 1997-892485 A2 19970714
 US 1997-971799 A2 19971117
 WO 1998-US14531 W 19980714
 US 1999-258486 A3 19990226

RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:122696 CAPLUS
 DN 120:122696
 TI Manufacture of semiconductor device having tantalum oxide-based
 capacitor with reduced leak current
 IN Kamyama, Satoshi
 PA Nippon Electric Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 05243524	A2	19930921	JP 1992-42646	19920228
PRAI	JP 1992-42646		19920228		

L10 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:92569 CAPLUS
 DN 120:92569

* TI Fabrication of tantalum oxide thin film on silicon substrate by photo-
 CVD
 method
 AU Han, B. M.; Kim, S. Y.; Kim, K. S.
 CS Dep. Phys., Korea Adv. Inst. Sci. Technol., S. Korea
 SO Han'guk Pyomyon Konghak Hoechi (1992), 25(3), 126-32
 CODEN: HPKHEL; ISSN: 1225-8024
 DT Journal
 LA Korean

L10 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1993:31189 CAPLUS
 DN 118:31189

TI Electric characteristics of tantalum pentoxide films
AU Chang, Chung Geun; Song, Jae Young; Lee, Ki Sun; Kang, Jun Gill; Kim,
Soo Yong
CS Coll. Natl. Sci., Chungnam Natl Univ., S. Korea
SO Chungnam Kwahak Yonguchi (1990), 17(2), 92-7
CODEN: CJOSDA
DT Journal
LA Korean

L10 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:416282 CAPLUS
DN 105:16282
TI Photo-CVD of tantalum oxide film from pentamethoxy tantalum for VLSI
dynamic memories
AU Yamagishi, Koji; Tarui, Yasuo
CS Dep. Electr. Eng., Tokyo Univ. Agric. Technol., Tokyo, 184, Japan
SO Japanese Journal of Applied Physics, Part 2: Letters (1986), 25(4),
L306-L308
CODEN: JAPLD8
DT Journal
LA English

=> d 1-4 kwic

L10 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
IT Annealing
Atomizing (spraying)
Capacitor electrodes
Electric contacts
Ferroelectric films
Integrated circuits
Perovskite-type crystals
Pipes and Tubes
Rapid thermal annealing
Semiconductor device fabrication
Semiconductor superlattices
Superlattices
Vapor deposition apparatus
(method and app. for prepg. integrated circuit thin films by chem.
vapor deposition)
IT 93-91-4D, Benzoylacetone, metal complexes 123-54-6D, Acetylacetone,
metal complexes 546-68-9 593-91-9, Trimethylbismuth 603-33-8,
Triphenylbismuth 617-77-6, Triethylbismuth ***865-35-0*** , Tanta
lum
pentamethoxide 3236-82-6, Niobium pentaethoxide 6074-84-6, Tantalum
m
pentaethoxide 7721-01-9, Tantalum pentachloride 10026-12-7, Niobium
m
pentachloride 10433-06-4, Antimony triethoxide 15049-67-9, Bismuth
triisopropoxide 17594-47-7, Barium dipivaloylmethanate 18865-74-2
24952-65-6 36830-74-7, Strontium bis(dipivaloylmethanate) 38625-54
-6,
Tris(dipivaloylmethanate)ruthenium 38874-18-9 90520-74-4, Bismuth
tris(tert-butoxide) 121151-11-9 124687-44-1, Bismuth

tris(tert-pentoxide) 142617-53-6, Bismuth tris(dipivaloylmethanate)
 144665-26-9, Diisopropoxybis(dipivaloylmethanato)titanium 147050-80-
 4 150178-00-0, Lead dipivaloylmethanate 170514-07-5
 RL: NUU (Other use, unclassified); USES (Uses)
 (precursor; method and app. for prep. integrated circuit thin film
 s by chem. vapor deposition)

L10 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
 TI Manufacture of semiconductor device having tantalum oxide-based
 capacitor with reduced leak current
 ST semiconductor device ***capacitor*** leak current; tantalum oxide
 dielec film ***capacitor*** ; polycrystd silicon electrode nitridat
 ion annealing; titanium nitride electrode ***capacitor*** semiconducto
 r;
 tungsten electrode ***capacitor*** semiconductor device; memory de
 vice
 capacitor
 IT Vapor deposition processes
 (for tantalum oxide ***capacitor*** , for semiconductor device)
 IT Annealing
 (of polycryst. silicon, for nitridation, for ***capacitor*** , f
 or semiconductor device)
 IT Electric insulators and Dielectrics
 (tantalum oxide film, for ***capacitor*** with reduced leak
 current, for semiconductor device)
 IT Memory devices
 (tantalum oxide-based ***capacitor*** with reduced leak current
 for)
 IT Electric ***capacitors***
 (tantalum oxide-based, with reduced leak current, in semiconductor
 device manuf.)
 IT 7664-41-7, Ammonia, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (annealing of silicon in, for nitridation, for ***capacitor*** ,
 for semiconductor device)
 IT ***865-35-0*** , Tantalum pentamethoxide 6074-84-6, Tantalum
 pentaethoxide
 RL: TEM (Technical or engineered material use); USES (Uses)
 (chem. vapor deposition of tantalum oxide from, for ***capacitor*
 **
 , for semiconductor device)
 IT 1314-61-0, Tantalum oxide
 RL: TEM (Technical or engineered material use); USES (Uses)
 (dielec. film, for ***capacitor*** with reduced leak current, f
 or semiconductor device)
 IT 7440-33-7, Tungsten, uses 25583-20-4, Titanium nitride
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrode, for tantalum oxide-based ***capacitor*** , for
 semiconductor device)
 IT 12033-89-5, Silicon nitride, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(polycryst. silicon coated by, for tantalum oxide dielec. film, for
capacitor , for semiconductor device)
IT 7440-21-3, Silicon, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)
(polycryst., electrode, nitridation of, for tantalum oxide dielec.
film, for ***capacitor*** , for semiconductor device)

L10 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ST amorphous tantalum oxide photo CVD ***capacitor***
IT ***865-35-0*** , Tantalum pentamethoxide 1314-61-0D, Tantalum oxi
de
(Ta2O5), nonstoichiometric 7440-21-3, Silicon, miscellaneous
RL: DEV (Device component use); USES (Uses)
(photo CVD of tantalum oxide films on silicon as insulators and mem
ory devices)

L10 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
IT Electric ***capacitors***
(tantalum pentoxide-contg., elec. behavior of)
IT ***865-35-0***
RL: USES (Uses)
(oxygen-assisted pyrolysis of, in tantalum pentoxide prepn.)

=> d 5 kwic

L10 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AB Tantalum oxide film with large dielec. const. from Ta(OMe)5 for were g
rown
at a low temp. by photo-CVD for ***capacitors*** in VLSI. The
photo-CVD film obtained in this study has good step coverage, high die
lec.
const. (20-24), and low leakage. . .
ST tantalum oxide dielec film ***capacitor***
IT Electric ***capacitors***
(in VLSI memories, tantalum oxide for)
IT ***865-35-0***
RL: USES (Uses)
(deposition of tantalum oxide film from, for VLSI dynamic memories)

=> d his

(FILE 'HOME' ENTERED AT 11:04:23 ON 23 SEP 2003)

FILE 'USPAT2' ENTERED AT 11:04:45 ON 23 SEP 2003

L1 0 S TANTALUM (W) PENTAMETHOXIDE
L2 0 S TANTALUM (W) METHOXIDE
L3 0 S TANTALUMMETHOXIDE

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L4 1 S TANTALUM (W) PENTAMETHOXIDE
L5 1 S TANTALUM (W) PENTAETHOXIDE

FILE 'USPAT2' ENTERED AT 11:06:25 ON 23 SEP 2003
L6 0 S 865-35-0.RN.
L7 1 S L4
L8 27 S L5
L9 22 S L8 AND CAPACITOR

FILE 'INSPEC, CAPLUS' ENTERED AT 11:11:20 ON 23 SEP 2003
L10 5 S L4 AND CAPACITOR

=> s l5 and capacitor
L11 117 L5 AND CAPACITOR

=> d his full

(FILE 'HOME' ENTERED AT 11:04:23 ON 23 SEP 2003)

FILE 'USPAT2' ENTERED AT 11:04:45 ON 23 SEP 2003
L1 0 SEA ABB=ON PLU=ON TANTALUM (W) PENTAMETHOXIDE
L2 0 SEA ABB=ON PLU=ON TANTALUM (W) METHOXIDE
L3 0 SEA ABB=ON PLU=ON TANTALUMMETHOXIDE

FILE 'REGISTRY' ENTERED AT 11:05:25 ON 23 SEP 2003
L4 1 SEA ABB=ON PLU=ON TANTALUM (W) PENTAMETHOXIDE
D 1
L5 1 SEA ABB=ON PLU=ON TANTALUM (W) PENTAETHOXIDE
D 1

FILE 'USPAT2' ENTERED AT 11:06:25 ON 23 SEP 2003
L6 0 SEA ABB=ON PLU=ON 865-35-0.RN.
L7 1 SEA ABB=ON PLU=ON L4
L8 27 SEA ABB=ON PLU=ON L5
D L7
L9 22 SEA ABB=ON PLU=ON L8 AND CAPACITOR
D L9 1-22
D 1-22 KWIC

FILE 'INSPEC, CAPLUS' ENTERED AT 11:11:20 ON 23 SEP 2003
L10 5 SEA ABB=ON PLU=ON L4 AND CAPACITOR
D 1-5
D 1-4 KWIC
D 5 KWIC
L11 117 SEA ABB=ON PLU=ON L5 AND CAPACITOR

FILE HOME

FILE USPAT2

FILE COVERS 2001 TO PUBLICATION DATE: 23 Sep 2003 (20030923/PD)
FILE LAST UPDATED: 23 Sep 2003 (20030923/ED)
HIGHEST GRANTED PATENT NUMBER: US2003139401
HIGHEST APPLICATION PUBLICATION NUMBER: US2003176950
CA INDEXING IS CURRENT THROUGH 23 Sep 2003 (20030923/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 23 Sep 2003 (20030923/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2003

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Use USPATALL when searching terms such as patent assignees, classifications, or claims, that may potentially change from the earliest to the latest publication.

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 SEP 2003 HIGHEST RN 591204-55-6
DICTIONARY FILE UPDATES: 22 SEP 2003 HIGHEST RN 591204-55-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

FILE INSPEC

FILE LAST UPDATED: 22 SEP 2003 <20030922/UP>
FILE COVERS 1969 TO DATE.

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FILE CAPLUS

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FILE LAST UPDATED: 22 Sep 2003 (20030922/ED)

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